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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,160	01/30/2002	Takeshi Miyakawa	218222US0PCT	1444

22850 7590 05/04/2007

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ART UNIT	PAPER NUMBER
1772	

NOTIFICATION DATE	DELIVERY MODE
05/04/2007	ELECTRONIC

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/030,160
Filing Date: January 30, 2002
Appellant(s): MIYAKAWA ET AL.

Corwin P. Umbach
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed January 3, 2007 appealing from the Office action mailed July 6, 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,361,901	SCHENZET et al.	11-1994
5,346,765	MAEDA et al.	09-1994
JP 08-258888	Miyamoto	10-8-1996

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. Claims 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schenz et al. (U.S. Patent No. 5,361,901) in view of Maeda et al. (U.S. Patent No. 5,346,765).

Schenz discloses an embossed carrier tape (*title*) comprising a sheet having at least one embossed pocket (*figure 2 and col. 6, line 5*) comprising at least one thermoplastic resin other than a polyphenylene ether resin, such as polyvinyl chloride resin, polyester, etc. (*col. 5, lines 62-68*), wherein at least on surface of the sheet has a surface resistance of at most 10^{12} Ω/□ (*col. 3, lines 29-33*). The carrier tape can further be a single-layer or multi-layer.

Schenz fails to disclose that the sheet has a tear strength of at least 105 N/mm as defined in Japanese Industrial Standard K-7128-3.

Maeda discloses a cover tape for packing chip type electronic parts comprising a layer with surface resistance of 10^{13} ohms pre ohms square or less that comprises a thermoplastic resin

such as polyvinyl chloride resin, polyester, etc. and 10-100 parts by weight conductive fine powder, such as carbon black (*col. 4, lines 5-26*). The antistatic material has conductivity by itself and accordingly has antistatic effect semi-permanently, and does not cause bleeding, etc. and therefore does not adversely affect the sealing property of the adhesion layer, the surface resistance of the adhesion layer is controlled at a level of 10^{13} ohms pre ohms square or less and hence, no static electricity is generated by the contact of the electronic parts during transportation of the package, or at the time the of peeling of the cover tape for pick-up electronic parts, whereby the electronic parts can be prevented from troubles due to static electricity (*col. 4, lines 32-45*). Furthermore, in order to enhance the antistatic effect, an antistatic layer or conductive layer may be provided on both sides of the outer layer (*col. 4, lines 46-48*).

While the examiner notes that Maeda is disclosing a cover for a carrier tape and Schenz is disclosing a carrier tape, they are both trying to solve a similar problem. They are both trying to reduce static in electronic packaging.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have add Maeda's conductive fine powder to the thermoplastic resin of Schenz in order to enhance the antistatic property of Schenz and in sure no static electricity is generated by the contact of the electronic parts during transportation of the package, or at the time the of peeling of the cover tape for pick-up electronic parts, whereby the electronic parts can be prevented from troubles due to static electricity (*Maeda col. 4, lines 32-45*). Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the invention to as an electrically conductive surface layer to Schenz as taught by Maeda in order to enhance the antistatic effect (*Maeda col. 4, lines 46-48*).

Furthermore, the limitation "the sheet has a tear strength of at least 105 N/mm as defined in Japanese Industrial Standard K-7128-3" is deemed to be a latent property of the prior art since the prior art is substantially identical in composition and structure, unless Appellant presents evidence from which the Examiner could reasonably conclude that the claimed product differs in kind from those of the prior art. MPEP 2145 (II). The Examiner's basis for this assertion is that Appellant's carrier tape has the same composition and the article can be made by any conventional method (*specification page 4, lines 16-23*). Appellant discloses that carrier tape comprises a thermoplastic resin, such as polyvinyl chloride resin, polyester, etc., and an electrically conductive filler, such as carbon black (*specification page 4, lines 1-15*).

Alternatively, if the limitation "the sheet has a tear strength of at least 105 N/mm as defined in Japanese Industrial Standard K-7128-3" is not inherent, the exact tear strength of the carrier tape is deemed to be a result effective variable with regard to the peeling the cover tape off. It would require routine experimentation to determine the optimum value of a result effective variable, such as tear strength, in the absence of a showing of criticality in the claimed tear strength. *In re Boesch*, 205 USPQ 215 (CCPA 1980), *In re Woodruff*, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).. One of ordinary skill in the art would have been motivated to increase the tear strength in order prevent premature peeling or tearing the packaging, whereby the electronic parts can be prevented from troubles due to static electricity.

2. Claims 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schenz et al. (U.S. Patent No. 5,361,901) in view of Miyamoto (JP Patent No. 08258888) with machine translation.

Schenz discloses an embossed carrier tape (*title*) comprising a sheet having at least one embossed pocket (*figure 2 and col. 6, line 5*) comprising at least one thermoplastic resin other than a polyphenylene ether resin (*col. 5, lines 62-68*), wherein at least on surface of the sheet has a surface resistance of at most 10^{12} Ω/+ (*col. 3, lines 29-33*). The carrier tape can further be a single-layer or multi-layer.

Schenz fails to disclose that the sheet has a tear strength of at least 105 N/mm as defined in Japanese Industrial Standard K-7128-3.

Miyamoto discloses a cover tape for an embossed carrier tape (*title*) which comprises a sheet comprising a thermoplastic resin, since the reference discloses that the sheet is made of an ethylene-alpha olefin copolymer (*machine translation page 2, line 8*). The sheet has a base layer and a surface layer having a surface resistance of at most 10^{12} Ω/+ on both sides of the base layer, since the reference discloses that the tape comprises a biaxially oriented polyester layer, i.e. a base layer, and an adhesive combined with a conductive powder, i.e. an electrically conductive layer (*machine translation page 2, lines 5-15 and figure 2*) and that the surface-electrical-resistance values of a glue line are below 10^{13} Ω/+ (*machine translation page 2, lines 15-16*) and preferably below 10^{10} Ω/+ (*machine translation page 3, lines 13-14*). The sheet also having a tear strength of at least 105 N/mm as defined the Japanese Industrial Standard K-7128-3, since the reference discloses that the tape has a tear strength of 100 kg/cm or more, which is equivalent to 98 N/mm or more (*machine translation page 2, line 6*).

Miyamoto also discloses the sheet has a base layer and an electrically conductive layer, since the reference discloses that the tape comprises a biaxially oriented polyester layer, i.e. a

base layer, and an adhesive combined with a conductive powder, i.e. an electrically conductive layer (*machine translation page 2, lines 5-15 and figure 2*).

While the examiner notes that Miyamoto is disclosing a cover for a carrier tape and Schenz is disclosing a carrier tape, they are both trying to solve a similar problem. They are both trying to improve materials used in electronic packaging.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have Schenz have a tear strength of at least 105 N/mm as defined the Japanese Industrial Standard K-7128-3 as taught by Miyamoto in order to increase the tear resistance of Schenz carrier.

It also would have been obvious to one of ordinary skill in the art at the time of the invention to have include an electrically conductive surface layer in Schenz as taught by Miyamoto in order to help dissipate static shocks.

(10) Response to Argument

3. Appellant's arguments in Appeal Brief filed January 3, 2007 regarding the 35 USC 103 rejection over Schenz in view of Maeda of record have been carefully considered but are deemed unpersuasive.

It is noted that Appellant's arguments on page 4 of the appeal brief are merely background information about Appellant's invention as described in the specification.

It is noted that Appellant's arguments on page 5 of the appeal brief are merely a general summary of the Schenz reference.

Appellant argues on pages 6-7, section 1, of the appeal brief that the combination of Schenz and Maeda fails to suggest the limitation of claims 10-15 of an "embossed carrier tape comprising a sheet having at least one embossed pocket, wherein the sheet ... has a tear strength of at least 105 N/mm as defined in Japanese Industrial Standard K-7128-3." Appellant further summarizes the Schenz references and states that the Schenz reference is silent about the tear strength of the carrier tape as pointed out by the Examiner in the non-final office action mailed July 6, 2006. (It is noted that Appellant references the final office action mailed October 4, 2005 as the immediate prior action. However, that is incorrect the immediate prior office action and the only office action to contain the Schenz and Maeda rejection was the non-final office action mailed July 6, 2006.) Appellant than summarizes the Maeda reference and states that Maeda is only concerned with the cover tape and is concerned with the peel-off strength between the cover tape and the carrier tape and is silent about the tear strength of the carrier tape.

First, Appellant has failed to specifically point out how the references fail to disclose an "embossed carrier tape comprising a sheet having at least one embossed pocket." Schenz clearly discloses an embossed carrier tape (*title*) comprising a sheet having at least one embossed pocket (*figure 2 and col. 6, line 5*). Second, in response to Appellant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Third, the Examiner has never stated that either Schenz or Maeda expressly teaches a tear strength of at least 105 N/mm as defined in Japanese Industrial Standard K-7128-3. Fourth, Appellant has not addressed the Examiner's basis for rejection of the limitation "tear strength of

at least 105 N/mm as defined in Japanese Industrial Standard K-7128-3," that is the limitation is either a latent property, i.e. inherent, or alternatively that the exact tear strength of the carrier tape is deemed to be a result effective variable with regard to the peeling the cover tape off and would require routine experimentation to determine the optimum value. In conclusion Appellant's arguments are moot since they fail to address the Examiner's basis for rejection the limitation.

Appellant argues on pages 8-10, section 2, of the appeal brief that there is no reasonable expectation that the combination of Schenz and Maeda would have led the skilled artisan to the limitation of claims 10-15 of an "embossed carrier tape comprising a sheet having at least one embossed pocket, wherein the sheet ... has a tear strength of at least 105 N/mm as defined in Japanese Industrial Standard K-7128-3," because there is no recognition in the cited prior art that tear strength is an important factor in avoiding carrier tape breakage during use. Again Appellant states that Schenz is silent about the tear strength of the carrier tape. Appellant than summarizes the Maeda reference and states that Maeda is only concerned with the cover tape and is concerned with the peel-off strength between the cover tape and the carrier tape and is silent about the tear strength of the carrier tape. Appellant than summarizes examples from the specification and the importance of controlling tear strength.

First, it must be noted that the combination of Schenz and Maeda discloses the same embossed carrier tape desired by Appellant. Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a *prima facie* case of either anticipation or obviousness has been established. Therefore, the *prime facie* case can be rebutted by evidence showing that the

prior art products do not necessarily possess the characteristics of the claimed product. Appellant has not provided evidence showing that the combination of Schenz and Maeda does not have a tear strength of at least 105 N/mm as defined in Japanese Industrial Standard K-7128-3. Second, Maeda desires a cover tape with improved tear resistance (*col. 4, lines 67-68*) and preventing troubles due to static electricity (*col. 4, lines 32-45*). Therefore, the Examiner maintains that the exact tear strength of the carrier tape is deemed to be a result effective variable with regard to the peeling the cover tape off and would require routine experimentation to determine the optimum value. Appellant has not provided any evidence showing criticality in the claimed tear strength. Third, Examiner has already noted that Maeda is disclosing a cover for a carrier tape and Schenz is disclosing a carrier tape, however they are both trying to solve a similar problem. They are both trying to reduce static in electronic packaging. Fourth, all of the Examiner's comments listed above for section 1 also apply to section 2. In conclusion Appellant's arguments are moot since they fail to address the Examiner's basis for rejection the limitation. Also, it is noted that Maeda is interested in improving tear strength and the absence of an explicit teaching of a property does not mean that the prior art would not necessarily possess that property.

Appellant's arguments on pages 10-11, section 3, of the appeal brief are in regard to the Declaration filed July 11, 2005. As the Examiner has already stated in the Final Office action mailed October 4, 2005: Appellant's declaration is deemed to be unpersuasive because it is not commensurate in scope with the instant claims. Specially, the examples used in the declaration are made of specific polymers and have specific sheet thickness. None of which is claimed.

Furthermore, Appellant's declaration does not show examples of the prior art to show that the combination of Schenz and Maeda do not possess the claimed tear strength.

4. Appellant's arguments in Appeal Brief filed January 3, 2007 regarding the 35 USC 103 rejection over Schenz in view of Miyamoto of record have been carefully considered but are deemed unpersuasive.

Appellant argues on page 12, section 1, of the appeal brief that the combination of Schenz and Miyamoto fails to suggest the limitation of claims 10-15 of an "embossed carrier tape comprising a sheet having at least one embossed pocket, wherein the sheet ... has a tear strength of at least 105 N/mm as defined in Japanese Industrial Standard K-7128-3." Appellant further summarizes the Schenz references and states that the Schenz reference is silent about the tear strength of the carrier tape as pointed out by the Examiner in the non-final office action mailed July 6, 2006. (It is noted that Appellant references the final office action mailed October 4, 2005 as the immediate prior action. However, that is incorrect the immediate prior office action and the only office action to contain the Schenz and Maeda rejection was the non-final office action mailed July 6, 2006.) Appellant than summarizes the Miyamoto reference and states that Miyamoto is only concerned with the cover tape and that a cover tape is not a carrier tape.

First, Appellant has fail to specifically point out how the references fail to disclose an "embossed carrier tape comprising a sheet having at least one embossed pocket." Schenz clearly discloses an embossed carrier tape (*title*) comprising a sheet having at least one embossed pocket (*figure 2 and col. 6, line 5*). Second, in response to Appellant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the

rejections are based on combinations of references. Third, the Examiner has already noted that Miyamoto is disclosing a cover for a carrier tape and Schenz is disclosing a carrier tape, however they are both trying to solve a similar problem. They are both trying to improve materials used in electronic packaging. In conclusion Appellant's arguments are moot since they fail to show why one of ordinary skill in the art would not look to a cover sheet for an embossed carrier tape to improve the propertied of the carrier tape.

Appellant argues on pages 13-15, section 2, of the appeal brief that the combination of Schenz and Miyamoto fails to suggest the limitation of claims 10-15 of an "embossed carrier tape comprising a sheet having at least one embossed pocket, wherein the sheet ... has a tear strength of at least 105 N/mm as defined in Japanese Industrial Standard K-7128-3," because there is not recognition in the cited prior art that tear strength is an important factor in avoiding carrier tape breaking during use. Appellant further states that Schenz is silent about the tear strength of the carrier tape and Miyamoto ignores the importance of the carrier tape tear strength.

In response to Applicant's argument that there is no recognition in the cited prior art that tear strength is an important factor in avoiding carrier tape breaking during use, there is no requirement that a motivation to make the modification be expressly articulated. The test for combining references is what the combination of disclosures taken as a whole would suggest to one of ordinary skill in the art. References are evaluated by what they suggest to one versed n the art, rather than by their specific discloses. In this case, one of ordinary skill in the art would recognize that both cover and carrier need to have improved tear strength so that the packaging does not tear prematurely. Appellant's declaration is deemed to be unpersuasive because it is not commensurate in scope with the instant claims. Specially, the examples used in the declaration

are made of specific polymers and have specific sheet thickness. None of which is claimed. Furthermore, Appellant's declaration does not show examples of the prior art to show that the combination of Schenz and Maeda do not possess the claimed tear strength.

Appellant's arguments on pages 15-16, section 3, of the appeal brief are in regard to the Declaration filed July 11, 2005. As the Examiner has already stated in the Final Office action mailed October 4, 2005: Appellant's declaration is deemed to be unpersuasive because it is not commensurate in scope with the instant claims. Specially, the examples used in the declaration are made of specific polymers and have specific sheet thickness. None of which is claimed. Furthermore, Appellant's declaration does not show examples of the prior art to show that the combination of Schenz and Maeda do not possess the claimed tear strength.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Alicia Chevalier

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